PUBLIC HEALTH DEPARTMENT,
GUILDHALL, CAMBRIDGE.

February 16th, 1931.

To the Chairman and Members of the Local Education Authority.

MR. CHAIRMAN, LADIES AND GENTLEMEN,

I have the honour to submit for your consideration the 23rd Annual Report upon the medical inspection of the elementary school children in Cambridge.

Although there are no very radical changes or facts revealed, quite a number of fresh developments and extensions have taken place during the year.

A third School Nurse has been appointed, partly with the object of dealing more effectively with work which was already going on, and partly with the object of dealing with an entirely fresh branch of work, viz., immunisation against Diphtheria.

The provision of milk in the schools is also a new feature, and is likely to extend considerably.

Artificial light treatment at the Open Air School has been provided during the current year.

At the same time every endeavour has been made to improve already established features of the work, both of inspection and treatment.

The interest of Parents in the work of Medical Inspection is shown by their attendance in increasing numbers at the inspection by the Doctor, and by the readiness with which treatment is obtained for the defects revealed by the inspections.

It is true that a small group of offenders in the matter of cleanliness is always with us, and absorbs a disproportionate amount of everyone's time; but apart from this I think it can be said the Report indicates that the standards reached in previous years have been fully maintained during 1930.

I am,

Your obedient Servant,

ANDREW J. LAIRD,

School Medical Officer.

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Report of the School Medical Officer

FOR THE YEAR 1930.

Population of the Borough (estimated)	60730
Area of the Borough...	5457 acres
Number of Elementary Schools	19
Number of Departments	35
Average number of Children on the Registers ...	6805
Average Attendance	6170

The average number of children on the school registers and the average number attending continues to decline each year as is shown by the following figures :—

	1922	1923	1924	1925	1926	1927	1928	1929	1930
Average number of children on registers	7782	7412	7241	7232	7126	7060	6924	6823	6805
Average number of children in attendance	6791	6672	6509	6260	6388	6273	6266	6065	6170

Staff.—

School Medical Officer	Andw. J. LAIRD, M.D., C.M., D.P.H.
Assistant School Medical Officer...	A. Mabel GURNEY, M.B., Ch.B., D.P.H.
Public Dental Officer	W. Baird GRANDISON, L.D.S., R.C.S.
Assistant Public Dental Officer ...	D. B. CRUICKSHANK, L.R.C.P.S., L.D.S.
Bacteriologist	W. H. HARVEY, M.D. (Part time)
School Nurses	Miss M. M. W. STEVENS. Miss F. A. NICHOLLS. Miss I. I. FOX.
Dental Attendants	Miss D. MALLETT. Miss E. IMPEY. Miss J. LOCKHART.
Clerk	Miss G. A. M. WALLIS,

together with the part-time services of the Chief Clerk in the Public Health Department.

School Premises.—The St. Giles' C.E. School for infants has been vacated, and the children transferred to what was the Junior Mixed School as from September 1st, 1930.

Proposals for four new schools are under consideration as follows :—

(1) Infants' School for 224 children in Green End Road, Chesterton (including provision of 2 rooms for Nursery Classes for 64 children).

(2) Infants' School for 224 children in Romsey Town off Coleridge Road (including provision of 2 rooms for Nursery Classes for 64 children).

(3) New Senior School for Boys and Girls in Chesterton area.

(4) New Senior School for Boys and Girls in Romsey area.

Those changes have resulted from the new scheme of reorganisation of the schools, and also from the fact that large numbers of families have removed to the new building estates of the Corporation on the outer fringes of the Borough where at present there are no schools.

Groups of Children Inspected.—The children inspected were those usually classified as Entrants, *i.e.*, children entering school for the first time, the eight-year old children (intermediates), the twelve and thirteen year old children (leavers), and any other children presented for some special reason (specials).

The number of children seen at routine inspections is 145 less than the previous year, owing mainly to the drop in the number of "intermediates" and "leavers." For the same reason there were also fewer re-inspections. The number of children seen apart from routine work (*i.e.*, "Specials") was, however, slightly more.

The number belonging to the first three age groups (routine cases) and the number specially examined were :—

Routine Cases :	Boys.	Girls.	Total.
Entrants ...	413	346	759
Intermediates ...	373	368	741
Leavers ...	248	222	470
	1034	936	1970

Special Inspections, 1174 ; re-inspections, 1267.

The fluctuations in the routine groups from 1924 are shown below :—

	1924	1925	1926	1927	1928	1929	1930
Entrants ...	741	858	756	719	700	683	759
Intermediates ...	698	646	506	506	841	842	741
Leavers ...	787	742	697	698	600	590	470
Totals ...	2226	2246	1959	1923	2141	2115	1970

The following Table shows the number of routine inspections carried out at the various schools :—

	Entrants.		Intermediates		Leavers.	
	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.
Barnwell Abbey ...	17	13	15	9	—	—
Brunswick Council ...	45	57	58	52	34	42
Central	—	—	—	—	102	79
East Road	21	14	—	—	31	17
Milton Road	40	31	30	39	10	13
Morley Memorial ...	32	22	22	28	4	8
Newnham Croft ...	17	16	13	11	—	—
New Street	20	17	21	16	5	2
Park Street	12	7	1	19	—	—
Richmond Road ...	13	10	5	3	—	—
Romsey Council ...	—	—	44	29	19	15
St. Andrew's	29	26	29	19	—	—
St. Barnabas	20	17	11	15	—	—
St. Giles'	13	15	—	—	—	—
St. Luke's	31	19	39	24	27	18
St. Matthew's... ...	10	13	31	35	—	—
St. Paul's	12	8	13	17	—	—
St. Philip's	75	57	39	47	11	23
Union Road R.C. ...	6	4	2	5	5	5
	413	346	373	368	248	222
	759		741		470	

The number at routine inspections represents 32 per cent. of the number of children in average attendance.

Co-operation of Parents.—The proportion of Parents present at the routine inspections of the children reached 77.2 per cent., and varied from a minimum of 39 per cent. at East Road Boys' School to 97 per cent. at Milton Road Infants' School.

REVIEW OF THE FACTS DISCLOSED BY INSPECTION.

General Physique.—The measurements of height and weight show very little change from last year, any change being in the direction of slight improvement except in the case of the 12 year old girls.

In spite of this slight improvement in the recorded figures, Dr. Gurney expresses some dissatisfaction with the physical condition of certain of the eight year old boys, and more particularly those attending St. Matthew's, New Street, and Brunswick Schools. This is attributed to unsuitable rather than insufficient diet, late hours, together with a certain amount of overcrowding and defective ventilation of their bedrooms.

BOYS.

Age in Years.	No. Examined in 1930.	Average Height in Inches.				Average Weight in Pounds.			
		1911	1912	1929	1930	1911	1912	1929	1930
5	241	40.6	40.5	42.55	42.38	38.2	38.2	40.59	41.18
8	404	46.9	46.4	48.91	49.19	50.4	47.6	56.07	56.67
12	199	55.1	54.9	55.82	56.28	73.6	72.9	79.00	80.22

GIRLS.

Age in Years.	No. Examined in 1930.	Average Height in Inches.				Average Weight in Pounds.			
		1911	1912	1929	1930	1911	1912	1929	1930
5	172	39.6	40.5	41.86	42.32	36.2	37.6	39.39	40.08
8	368	46.4	46.0	48.48	48.62	48.7	49.7	54.07	54.16
12	202	55.9	55.3	57.14	57.10	76.6	71.3	82.65	81.58

The physique of the children judged to be above and below the standard during the past few years is shewn below.

	1924	1925	1926	1927	1928	1929	1930
Above standard %	14.6	15.8	15.2	17.8	14.8	13.9	15.3
Below standard %	2.5	1.8	2.8	1.5	1.0	0.9	0.9

Defects Found.—The proportion of children requiring treatment found at routine inspection was slightly less than the previous year, viz. :—6.3 per cent., as compared with 7.3 per cent.

Among the " entrants " the proportion was 5.3 per cent., among " intermediates " 8 per cent., and among the " leavers " 5.1 per cent.

The total number recorded as " found to require treatment " is 123 (Table IIB). If, however, the number of children found with considerably enlarged tonsils (116 in all) were added, the proportion " requiring treatment " would be nearly doubled.

The small proportion recommended for treatment as compared with the figures given for the country as a whole is attributed by Dr. Gurney as being due mainly to difference of methods of procedure. Enlarged tonsils, for example, are not at once notified to parents as in need of treatment, as is done in many areas. It has been found from experience that the majority of such cases, after being kept under observation for twelve months (sometimes even longer), become normal without any specific treatment. The same applies to cervical adenitis. Children with enlarged glands in the neck, and who are below par, are advised to have cod liver oil or milk, but in Cambridge are not included in the figures of those requiring treatment.

Clothing, etc.—The general improvement in clothing continues. Fewer badly shod children were seen. Many of the children were wearing boots which were quite new, and had probably been obtained just before the inspection.

Cleanliness.—There is further improvement in the cleanliness of the heads this year. There are just a few families in each school who are recurring offenders, but frequently whole classes are met with in which not a single nit has been seen.

Since the appointment of the third Nurse head inspections have been carried out in four Junior Boys' Schools, and the other two Nurses have been able to inspect the heads of the boys in the Mixed Schools. This has been fully justified by the results. On every occasion upon which the Nurse has visited a school one or more boys with live pediculi have been found.

The proportion found with pediculi was 2.9 per cent.; in 1929 the proportion was 3.0 per cent.

No proceedings were taken under Section 122 of the Children Act, 1908, but proceedings in Court were taken under the School Attendance Bye-Laws in 14 cases, and fines from 2/6 to 10/- were inflicted in 7 of these. 3 were dismissed with a caution, 3 convicted without a penalty, and 1 withdrawn.

Ringworm.—Here also the very satisfactory condition recorded in previous Annual Reports has been maintained in 1930. Only 9 new cases occurred, 3 of the body and 6 of the scalp. Of these 4 were treated at Addenbrooke's Hospital, and 5 privately. There were no cases in existence in the schools at the end of the year.

The new cases discovered each year from 1917 were as follows :—

1917	'18	'19	'20	'21	'22	'23	'24	'25	'26	'27	'28	'29	'30
38	33	58	44	39	37	24	26	15	11	14	16	2	9

External Eye Disease.—The conditions found were Conjunctivitis 12, Blepharitis 9, Squint 33, and various other conditions 5, making a total of 59. The total number of similar conditions in 1929 was 72, and 1928, 76.

Defective Vision.—The number of children found at routine inspection to have defective eyesight (6/12 or worse) was 130 or 10.7 per cent. of those tested.

In addition 87 " specials " were examined, 58 at Routine Inspection, and 29 at the Clinic.

Included in the above were 115 children who were already wearing spectacles.

Tonsils and Adenoids.—The number of children recommended for treatment of tonsils and adenoids was 57, as compared with 52 in 1929.

116 children (6·0 per cent.) had considerably enlarged tonsils, and 187 (9·5 per cent.) had slightly enlarged tonsils. 13 also suffered from adenoids.

Ear Disease and Deafness.—The number of children found with defective hearing was 35, or 1.8 per cent. of those inspected. Twelve had a purulent ear discharge (0·6 per cent.). The figures for several years are given for comparison.

	1923	1924	1925	1926	1927	1928	1929	1930
Otorrhoea	0.4	0.6	0.7	0.2	0.9	0.7	0.7	0.6
Deafness	1.6	3.1	1.9	2.0	3.4	3.4	3.0	1.8

Diseases of the Lungs.—No definite case of lung disease was found during the year. A considerable number, however, were referred to the Tuberculosis Officer for more detailed examination, and many of these were recommended for admission to the Open Air School.

Diseases of the Heart.—Twenty-two children with certain irregularities of the heart's action were noted, and are being kept under observation. The very few cases of definite heart disease were already under medical care. The cases of chorea found were referred for treatment and excluded from school attendance.

Defects in Speech.—Eleven stammerers were found, and one other child with defective articulation of certain letters.

Diseases of the Nervous System.—Eight cases of Chorea (St. Vitus' Dance) were found. In addition, indications of an unstable nervous system were detected in 18 other children.

Cripples and Deformities.—These include the children with slight after-effects of infantile paralysis; 9 with healed tubercular hip joints and anterior curvature of the shins, the result of rickets; 4 with congenital defects of hands, arms or toes; and 1 with spinal curvature.

Indications of early bone disease (rickets) are occasionally found, but, generally speaking, there is very little evidence of this disease to be found among the children attending the elementary schools in the Borough.

Other Defects.—Under this heading are children suffering from general debility and anaemia. The number with anaemia, especially, shows a decrease from 69 in 1929 to 59 in 1930.

Vaccination.—The proportion of children found with vaccination marks in 1930 was 26·3 per cent., this being 0·3 per cent. less than the previous year.

Inspection Clinic.—The Clinic is open every weekday, including Saturdays, from 9.30 a.m. until 1 p.m. The Assistant Medical Officer, three School Nurses, and a Clerk are in attendance.

The total number of children inspected at the Clinic in 1930 was 1,183, being 213 less than in 1929. The attendances in 1930 numbered 5,837, a decrease of 837 as compared with 1929.

The following are the figures for each quarter of the year :—

	Children.	Attendances.
1st Quarter ...	365	1914
2nd Quarter ...	373	1417
3rd Quarter ...	214	954
4th Quarter ...	231	1552
	1183	5837

The numbers attending in previous years were :—

1920	1921	1922	1923	1924	1925	1926	1927	1928	1929
1596	1917	1872	2523	1791	1930	2421	2019	1718	1396

The average daily attendance during 1930 was 24. In 1929 it was 28.

The reduction of the number of children seen at the Clinic is due to the altered arrangements for the supervision of children receiving cod liver oil and malt. Until the Autumn they were all seen at the Central Clinic in Parkside, but owing to the risks from traffic and the disturbance of school work, it was arranged to have them inspected at several convenient schools.

Eye Clinic.—The number of children who attended for refraction was 63. The conditions were :—Astigmatic hypermetropia 37, astigmatic myopia 5, simple myopia 8, simple hypermetropia 7, and mixed eyes 6.

All the 1929 cases who had not received their spectacles by the end of the year, received their spectacles in 1930. All the 1930 cases had received their spectacles by the end of the year with the exception of 5 ; 4 who had not finished payments and 1 who had left the town.

INFECTIOUS DISEASES AMONG ELEMENTARY SCHOOL CHILDREN.

The following table shows the notifications of Infectious Disease among the elementary school children received each year since 1922 :—

	1922	1923	1924	1925	1926	1927	1928	1929	1930
Scarlet Fever ...	23	45	64	30	51	92	127	56	106
Diphtheria	43	48	28	24	66	51	79	162	49
Influenza	1	4	3	7	3	17	—	1	—
Measles	258	322	473	677	303	113	726	316	453
German Measles ...	1	1	8	5	607	10	24	4	5
Whooping Cough ...	297	42	15	283	101	246	46	126	242
Chicken Pox ...	55	54	260	332	259	297	121	195	244
Mumps	14	4	91	141	720	195	21	20	9
Ringworm	10	4	15	10	7	3	8	2	6
Scabies	2	—	—	—	1	1	—	1	—
Skin Diseases ...	10	2	1	4	14	15	16	7	13
Others	77	64	122	63	121	63	78	102	74
Totals ...	791	590	1080	1576	2253	1103	1246	992	1201

106 school children had Scarlet Fever out of a total in the Borough of 178 cases at all ages.

49 school children had Diphtheria out of a total of 105 cases at all ages. The schools affected by these two diseases are shown in the following table :—

Name of School.	Diphtheria. No. of Cases.	Scarlet Fever. No. of Cases.	Total No. of Cases.
Abbey Mixed	–	–	0
,, Infants	–	1	1
Brunswick Boys	–	1	1
,, Girls	2	5	7
,, Infants	1	6	7
Central Boys	–	1	1
,, Girls	–	–	0
East Road Boys	–	–	0
,, Girls	–	2	2
,, Infants	1	–	1
Milton Road Mixed	2	4	6
,, Infants	–	2	2
Morley Memorial Mixed	3	1	4
,, Infants ...	1	1	2
Newnham Croft	1	2	3
Carried forward	11	26	37

	Diphtheria. No. of Cases.	Scarlet Fever. No. of Cases.	Total No. of Cases.
Brought forward	11	26	37
New Street Mixed	3	2	5
,, Infants	–	4	4
Park Street	6	1	7
Richmond Road	–	–	0
Romsey	3	14	17
St. Andrew's Mixed	3	–	3
,, Infants	1	–	1
St. Barnabas	–	–	0
St. Giles' Mixed	1	–	1
,, Infants	1	–	1
St. Luke's Boys	1	–	1
,, Girls	–	1	1
,, Infants	1	1	2
St. Matthew's Boys	2	2	4
,, Girls	3	1	4
,, Infants	–	2	2
St Paul's Mixed	1	2	3
,, Infants	2	–	2
St. Philip's Boys	1	5	6
,, Girls	4	6	10
,, Infants	5	34	39
Union Road R.C....	–	–	0
Open Air	–	5	5
	49	106	155

Deaths of Elementary School Children.—The total number of deaths in Cambridge of children 5—14 years of age during 1930 was 21.

These were as follows :—

Accidents	4
Diphtheria	3
Pulmonary tuberculosis	2
Tuberculous meningitis	2
Rheumatic Fever...	2
Tuberculous peritonitis	1
Cerebral abscess	1
Cerebral tumour	1
Bronchitis	1
Appendicitis	1
Nephritis	1
Obstruction of intestine	1
Septic infection of tonsils...	1
Total	21

School Closure.—Five departments had attendances below 60 per cent., and for these certificates were given in accordance with Circular 1337 of the Board of Education. There was no closure of any school or department on account of infectious disease during the year.

TREATMENT OF DEFECTS.

Treatment of Defects.—The total number of children with minor ailments requiring treatment is 464, being 30 more than the previous year. In addition treatment was given to 102 for defective vision, 67 for diseases of the throat and nose, 4,101 for dental disease, and 800 for uncleanliness, making a total of 5,534 cases treated in 1930, as compared with 4,776 in 1929.

1. *At Addenbrooke's Hospital.*—The X-ray treatment of ringworm of the scalp, the removal of tonsils and adenoids, the treatment of otorrhoea, and of a variety of other conditions, *e.g.*, curvature of the spine, chorea, disease of the eyes, etc., are all undertaken for the Education Committee at the Hospital. The Committee make an annual subscription to the Hospital of 50 guineas, and receive two hundred letters of recommendation for the use of school children.

In 1930 the number of letters of recommendation given for hospital treatment was 231, being 52 more than 1929.

The conditions for which treatment was required were (the figures for 1929 being in brackets): disease of the ears 20 (24), eyes 48 (31), ringworm 3 (1), tonsils and adenoids 49 (23), skin disease 28 (18), minor injuries 31 (35), chorea 2 (1), various other conditions 71 (58), making a total of 252 defects in 231 children.

2. *Treatment at the School Clinic.*—There has been a decrease in the number of children requiring treatment at the Clinic, from 327 in 1929 to 253 in 1930. The attendances have increased from 2,322 in 1929 to 2,921 in 1930.

The number of children who attended the Clinic for examination of their eyesight was 63. Of these 8 were found not to require spectacles; 55 were prescribed for at the Clinic, and by the end of the year spectacles had been obtained by all but 6 children, who were prescribed for near the close of the year, 5 have not yet finished paying for them, and 1 has left the town.

WORK OF THE SCHOOL NURSES.

In order to cope satisfactorily with the cases of Infectious Disease notified by Head Teachers, and to assist at the Diphtheria Immunisation Clinic as well as in the other school work, a third School Nurse was appointed, and commenced duty on May 12th, 1930.

Three hundred school children were Schick tested during the year. 281 of these gave positive reactions, and 279 of them were immunised. In addition 181 children were re-tested, 161 being found to be negative. The positive reactors received further inoculations and were then found to be negative.

The total number of visits made to schools in the year was 562, of which 127 were in connection with the routine medical inspections, 308 for the cleanliness survey, 41 in connection with infectious diseases, and the remainder for various other purposes.

The "home" visits numbered 2,133 in the year; 910 for the purpose of following-up cases of defects found at routine inspections, 862 in connection with infectious disease, and 361 visits of enquiry as to the cause of absence of children notified as ill by Head Teachers and School Attendance Officers.

The figures in 1929 were :—Total home visits 1,587, following-up 743, infectious diseases 705, absentees 139.

OPEN AIR SCHOOL.

Delicate and Physically Defective Children.—The number on the register of the Open Air School in Milton Road at the beginning of the year was 118. During the year 59 children left and 63 were admitted, the figures for 1929 being 37 left and 78 admitted. Of the 59 children who left school during the year, 37 returned to their ordinary schools, 4 were sent to a Sanatorium, 4 left the town, 10 had reached school leaving age, 2 were transferred to the Observation Class, and 2 left to go to private schools.

Observation Class.—The number in this class at the beginning of 1930 was 49. Sixteen left and 8 were admitted, leaving 41 children in attendance at the end of 1930. Of the 16 who left, 3 had reached the age of 14, 11 returned to ordinary school, 1 went to a special Residential School, and 1 was transferred to the Physically Defective Section.

Supervision by the Tuberculosis Officer.—The total number of reports upon children received from the Tuberculosis Officer during the year was 108. These related to 77 children. Twenty-nine were definitely excluded from attendance at any school for varying periods, and 29 were recommended for the Open Air School. Four were recommended for sanatorium treatment.

Tuberculosis in School Children.—The number of children of school age notified to be suffering from tuberculosis each year from 1925 is shown in the following statement :—

NOTIFICATIONS RECEIVED AT AGES 5–14 YEARS DURING THE YEARS 1925 TO 1930.

	Pulmonary Tuberculosis.		Non-Pulmonary Tuberculosis.	
	Boys.	Girls.	Boys.	Girls.
1925 ...	15	13	9	5
1926 ...	10	6	6	8
1927 ...	25	13	10	6
1928 ...	9	9	3	1
1929 ...	6	6	3	6
1930 ...	3	1	2	4

Voluntary Agencies.—Every year a number of delicate children are sent for a change of air to the seaside by members of the Invalid Children's Aid and Preventive Aid Societies. 45 were sent away during 1930, and all had been examined and passed as suitable by the Assistant School Medical Officer.

Other voluntary associations which carry on work among school children, and which give most valuable help, include the Care Committee, the Central Aid Society, and the Voluntary Association for Mental Welfare. The work which they do has been mentioned in previous Annual Reports, to which reference may be made.

The Inspector of the National Society for the Prevention of Cruelty to Children gave assistance in 22 cases during the year.

Use of Malt and Cod Liver Oil, and Milk in Schools.—During the year 50 new children have been receiving, on the recommendation of Dr. Gurney, cod liver oil and malt at school.

All these children medically recommended are seen by Dr. Gurney once a month, their condition noted and weights recorded.

The total number of children having malt and cod liver oil at school was 1,181. In 1929 the number was 1,480. The reduction is probably due to the fact that milk has in many cases been taken instead. The practice of milk drinking has extended greatly and is being actively encouraged. The Education Committee have been able to secure for the next financial year the supply of Grade A tuberculin tested milk, which it is hoped will lead to a still further expansion of the scheme. During the past year over 800 children had one-third of a pint of milk during the forenoon.

Institutional Care.—The number of defective children maintained in Institutions by the Education Committee during 1930 was : 2 blind, 8 deaf and dumb, 4 mentally defective, 2 epileptic and 6 crippled.

The number of children notified to the Local Control Authority during 1930 was 2 imbeciles and 2 feeble-minded.

EMPLOYMENT OF SCHOOL CHILDREN.

Bye-Laws for regulating the employment of children and young persons under the Employment of Children Act, 1903, and the Education Act, 1918, came into operation in June, 1922. Under these, all children between 12 and 14 about to be employed must first undergo an examination by the School Medical Officer as to their fitness for employment and a certificate signed by the School Medical Officer must have been obtained by the employer within 14 days of beginning employment.

The number examined and certified during 1930 was 88. In addition 1 child was examined for entertainment licence during the year.

Street trading by young persons between 14 and 16 is also regulated by the same Bye-Laws. Girls under 16 and boys under 15 are prohibited from trading in the street, and trading by boys between 15 and 16 is subject to a license being obtained from the Local Education Authority.

There were no applications for medical certificates for street trading during the year 1930.

THE TEACHING OF HYGIENE IN SCHOOLS.

In every school teaching in Hygiene is given in varying degree, mainly as a subject by itself, or at times in connection with science instruction. It is based almost invariably upon the Handbook of Suggestions on Health Education of the Board of Education, supplemented in several instances by other books upon the subject.

The instruction given to Infants is of a practical character, consisting mainly of personal hygiene; while for older children more theoretical treatment of the subject is given. In addition, talks upon the care of the teeth are given by the Dentists, and in several schools the seniors pay visits to premises such as a working dairy, a model bakery, gas works, and, in the case of girls, an infant welfare centre.

Physical training also receives a considerable amount of attention and includes organised games.

EVENING PLAY CENTRES.

Since 1919 two evening play centres (one at New Street School and one at the Abbey School) have been run by a Committee of the Cambridge Branch of the National Council of Women. There is a paid staff of five persons at New Street and three at the Abbey, the necessary funds being raised partly by subscription and partly from grants by the Local Education Authority and the Board of Education.

TABLE I.—RETURN OF MEDICAL INSPECTIONS.

A. ROUTINE MEDICAL INSPECTIONS.

Number of Code Group Inspections.	
Entrants	759
Intermediates	741
Leavers	470
Total	1970
Number of other Routine Inspections	Nil.

B. OTHER INSPECTIONS.

Number of Special Inspections	1174
Number of Re-Inspections	1267
Total	2441

TABLE II.—A. Return of Defects found by Medical Inspection in the year ended December 31st, 1930.

Defect or Disease.		Routine Inspections.		Special Inspections.	
		No. of Defects		No. of Defects	
		Requiring treatment.	Requiring to be kept under observation but not requiring treatment.	Requiring treatment.	Requiring to be kept under observation but not requiring treatment.
Malnutrition ...		—	2	—	—
Uncleanliness (see Table IV., Group V.) :		—	—	—	—
Skin	Ringworm :				
	Scalp ...	—	—	6	—
	Body ...	—	—	3	—
	Scabies ...	—	—	1	—
	Impetigo ...	—	—	65	—
	OtherDiseases(Non-Tuberculous)	1	—	123	—
Eye	Blepharitis ...	2	—	11	—
	Conjunctivitis ...	2	—	48	—
	Keratitis ...	—	—	—	—
	Corneal Opacities...	—	—	1	—
	Defective Vision (excluding Squint) ...	41	25	87	4
	Squint ...	7	—	7	—
	Other Conditions ...	—	—	12	2
Ear	Defective Hearing ...	3	14	14	1
	Otitis Media ...	6	1	11	—
	Other Ear Diseases ...	1	—	—	—
Nose and Throat	Enlarged Tonsils only ...	10	87	34	2
	Adenoids only ...	4	7	6	—
	Enlarged Tonsils and Adenoids ...	1	5	2	1
	Other Conditions ...	3	23	18	2
Enlarged Cervical Glands (Non-Tuberculous)		—	3	15	—
Defective Speech...		—	—	—	—
Teeth	Dental Diseases (see Table IV., Group IV.) ...				
Heart and Circulation	Heart Disease :				
	Organic...	—	—	1	—
	Functional ...	—	11	5	1
	Anaemia ...	15	6	23	1
Lungs	Bronchitis...	—	—	2	—
	Other Non-Tuberculous Diseases	—	—	4	—

TABLE II.—(*continued.*)

Defect or Disease.		Routine Inspections.		Special Inspections.	
		No. of Defects		No. of Defects	
		Requiring treatment.	Requiring to be kept under observation but not requiring treatment.	Requiring treatment.	Requiring to be kept under observation but not requiring treatment.
Tuberculosis	Pulmonary :				
	Definite...	—	—	2	—
	Suspected	1	3	—	—
	Non-Pulmonary :				
	Glands	—	—	2	—
	Spine	—	—	—	—
	Hip	—	—	—	—
	Other Bones and Joints ...	—	—	—	—
	Skin	—	—	—	—
	Other Forms	—	—	—	—
Nervous System	Epilepsy	—	—	1	—
	Chorea	3	1	5	2
	Other Conditions...	9	—	13	—
Deformities	Rickets	—	—	2	—
	Spinal Curvature	9	2	10	—
	Other Forms	—	4	3	—
Other Defects and Diseases		16	17	359	6

B. Number of Individual Children found at Routine Medical Inspection to require Treatment (excluding Uncleanliness and Dental Diseases).

Group.	Number of Children.		Percentage of Children found to require Treatment
	Inspected	Found to require Treatment.	
Code Groups :			
Entrants	759	40	5·3
Intermediates	741	59	8·0
Leavers	470	24	5·1
Total (Code Groups)	1970	123	6·3
Other Routine Inspections	Nil	Nil	Nil

TABLE III. Return of all Exceptional Children in the Area.

			Boys.	Girls.	Total.
Blind (including partially blind).	(*i.*) Suitable for training in a School or Class for the totally blind.	Attending Certified Schools or Classes for the Blind ...	1	1	2
		Attending Public Elementary Schools	—	—	—
		At other Institutions... ...	—	—	—
		At no School or Institution ...	—	—	—
	(*ii.*) Suitable for training in a School or Class for the partially blind.	Attending Certified Schools or Classes for the Blind ...	—	—	—
		Attending Public Elementary Schools	—	—	—
		At other Institutions... ...	—	—	—
		At no School or Institution ...	—	—	—
Deaf (including deaf and dumb & partially deaf).	(*i.*) Suitable for training in a School or Class for the totally deaf or deaf and dumb.	Attending Certified Schools or Classes for the Deaf ...	3	4	7
		Attending Public Elementary Schools	1	—	1
		At other Institutions... ...	—	—	—
		At no School or Institution ...	—	—	—
	(*ii.*) Suitable for training in a School or Class for the partially deaf.	Attending Certified Schools or Classes for the Deaf ...	—	—	—
		Attending Public Elementary Schools	2	—	2
		At other Institutions... ...	—	—	—
		At no School or Institution ...	—	—	—
Mentally Defective.	Feebleminded (cases not notifiable to the Local Control Authority.)	Attending Certified Schools for Mentally Defective Children	1	3	4
		Attending Public Elementary Schools	48	15	63
		At other Institutions... ...	—	—	—
		At no School or Institution ...	—	—	—
	Notified to the Local Control authority *during the year*.	Feebleminded...	—	—	—
		Imbeciles	1	—	1
		Idiots	—	—	—
Epileptics.	Suffering from severe epilepsy.	Attending Certified Special Schools for Epileptics ...	—	2	2
		In Institutions other than Certified Special Schools ...	—	—	—
		Attending Public Elementary Schools	—	—	—
		At no School or Institution ...	—	—	—

TABLE III.—(*continued*).

			Boys.	Girls.	Total.
Epileptics (*continued.*)	Suffering from epilepsy which is not severe.	Attending Public Elementary Schools	7	3	10
		At no School or Institution ...	—	—	—
Physically Defective.	Infectious pulmonary and glandular tuberculosis.	At Sanatoria or Sanatorium Schools approved by the Ministry of Health or the Board	—	—	—
		At other Institutions... ...	—	—	—
		At no School or Institution ...	—	—	—
	Non-infectious but active pulmonary and glandular tuberculosis.	At Sanatoria or Sanatorium Schools approved by the Ministry of Health or the Board	—	—	—
		At Certified Residential Open Air Schools	—	—	—
		At Certified Day Open Air Schools	—	—	—
		At Public Elementary Schools	13	18	31
		At other Institutions... ...	—	—	—
		At no School or Institution ...	—	—	—
	Delicate children (*e.g.*, pre-or latent tuberculosis, malnutrition, debility, anaemia, etc.).	At Certified Residential Open Air Schools	—	—	—
		At Certified Day Open Air Schools	54	53	107
		At Public Elementary Schools	186	185	371
		At other Institutions... ...	—	—	—
		At no School or Institution ...	—	—	—
	Active non-pulmonary tuberculosis.	At Sanatoria or Hospital Schools approved by the Ministry of Health or the Board	—	—	—
		At Public Elementary Schools	—	2	2
		At other Institutions... ...	—	—	—
		At no School or Institution ...	—	—	—
	Crippled Children (other than those with active tuberculous disease), *e.g.*, children suffering from paralysis, etc., and including those with severe heart disease.	At Certified Hospital Schools	—	2	2
		At Certified Residential Cripple Schools	—	—	—
		At Certified Day Cripple Schools	—	—	—
		At Public Elementary Schools	22	11	33
		At other Institutions... ...	3	4	7
		At no School or Institution ...	—	—	—

TABLE IV. Return of Defects Treated during the year ended 31st December, 1930.

TREATMENT TABLE.

Group I. Minor Ailments (excluding Uncleanliness, for which see Group V.)

Disease or Defect.	No. of Defects treated or under treatment during the year.		
	Under the Authority's Scheme.	Otherwise	Total.
Skin			
Ringworm—Scalp	3	3	6
,, Body	1	2	3
Scabies	1	—	1
Impetigo	52	13	65
Other Skin Disease	58	13	71
Minor Eye Defects ... ... (External and other, but excluding cases falling in Group II.)	49	8	57
Minor Ear Defects	—	3	3
Miscellaneous ... ... (*e.g.*, minor injuries, bruises, sores, chilblains, etc.)	231	27	258
Total	395	69	464

Group II. Defective Vision and Squint (excluding Minor Eye Defects treated as Minor Ailments—Group I.)

Defect or Disease.	No. of Defects dealt with.			
	Under the Authority's Scheme.	Submitted to refraction by private practitioner or at hospital, apart from the Authority's Scheme.	Otherwise.	Total.
Errors of Refraction (including squint) ...	63	35	4	102
Other Defect or Disease of the Eyes (excluding those recorded in Group I.)	—	—	—	—
Total	63	35	4	102

Total number of children for whom spectacles were prescribed	
(*a*) Under the Authority's Scheme	55
(*b*) Otherwise	34
Total number of children who obtained or received spectacles	
(*a*) Under the Authority's Scheme	50
(*b*) Otherwise	33

Group III. Treatment of Defects of Nose and Throat.

Number of Defects.

Received Operative Treatment.			Received other forms of Treatment.	Total number treated.
Under the Authority's Scheme, in Clinic or Hospital.	By Private Practitioner or Hospital, apart from the Authority's Scheme.	Total.		
59	1	60	7	67

Group IV. Dental Defects.

(1) Number of Children who were :—

(*a*) Inspected by the Dentist :

	Aged :			
Routine Age Groups	5	738	Total	5990
	6	650		
	7	615		
	8	682		
	9	791		
	10	787		
	11	497		
	12	488		
	13	374		
	14	368		
Specials				1023
Grand Total ...				7013

(*b*) Found to require treatment	4741
(*c*) Actually treated	4101
(*d*) Re-Treated during the year as the result of periodical examination	2373

(2) Half-days devoted to :—

Inspection ...	30	Total 580
Treatment ...	506	
Administration (including teaching)	44	

(3) Attendances made by Children for treatment 4505

(4) Fillings :—

Permanent Teeth	7377	Total 14629
Temporary Teeth	7252	

(5) Extractions :—

Permanent Teeth	201	Total 2339
Temporary Teeth	2138	

(6) Administrations of general anaesthetics for extractions ... 89

(7) Other operations :—

Permanent Teeth	97	Total 708
Temporary Teeth	611	

Group V. Uncleanliness and Verminous Conditions.

(i) Average number of visits per school made during the year by the School Nurses	8
(ii) Total number of Examinations of children in the Schools by School Nurses	17,490
(iii) Number of individual children found unclean	800
(iv) Number of children cleansed under arrangements made by the Local Education Authority	Nil
(v) Number of cases in which legal proceedings were taken :	
(*a*) Under the Education Act, 1921	Nil
(*b*) Under School Attendance Bye-Laws ...	14

REPORT

ON

DENTAL INSPECTION

AND

TREATMENT OF SCHOOL CHILDREN

FOR THE YEAR 1930.

BY

W. BAIRD GRANDISON, L.D.S., R.C.S., Edin.
PUBLIC DENTAL OFFICER.

THE DENTAL INSTITUTE,
35 PARK SIDE,
CAMBRIDGE.

December 31*st*, 1930.

To the Chairman and Members of the Local Education Authority.

LADIES AND GENTLEMEN,

I have the honour to submit the Twenty-third Annual Report on the working of the Dental Institute, covering a period from January 1st, 1930, to December, 31st, 1930.

Dr. D. Barron Cruickshank, L.R.C.P. & S., L.D.S. (Edin.), appointed to the office of assistant dental officer in December, 1929, took up duties on January 7th, 1930. Accordingly we have enjoyed an uninterrupted year, with the result that many of the arrears have been overtaken, there remaining only the Romsey Council School, and this school will be inspected on January 13th, 1931.

I am pleased with the results of our labours this year, and more than satisfied with the loyal co-operation of all those with whom we come in contact.

I am,
Ladies and Gentlemen,
Your obedient Servant,
W. BAIRD GRANDISON.

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Report on the Dental Inspection and Treatment of Elementary School Children

FOR THE YEAR 1930.

All the children attending the elementary schools in the Borough of Cambridge have the opportunity, once annually, of dental inspection, and, when necessary, of dental treatment. In the year under review (1930) 5990 children were submitted for routine inspection. Of this number 2272 children were found to have dentitions absolutely free from caries, 3718 required treatment, and 3078 received treatment. In addition 1023 children attended without appointment and received treatment, making a total number of 6013 children inspected and 4101 treated.

All inspections are conducted at the schools and the condition of the teeth duly noted on charts specially prepared for the purpose. There were 37 half-days devoted to inspection during the year 1930, the average number inspected at each session being 162 children, a very good average, made possible by the able and thoroughly organized method employed by the teachers.

The treatment of the children is conducted partly at a central clinic and partly at the schools by two whole-time dental officers, assisted by three whole-time dental attendants. Treatment is essentially of a conservative character, and the temporary and permanent teeth share equally in this definite process of preservation. Active conservative treatment of the temporary dentition is not only advisable but necessary, and evidence is now available in certain directions, notably in the regularity of the permanent dentition, to prove the efficacy of such attention. 339 treatment sessions were held during the year 1930, and 44 sessions devoted to work of an organizing and administrative character, including the sessions occupied in the teaching of dental hygiene in the schools. Progress is maintained and the popularity of dental treatment of school children increases.

CONDITION OF THE TEETH AT INSPECTION.

5990 elementary school children were inspected during the year 1930. Of this number, 790 children were new patients, that is, patients who had never been subjected to routine dental inspection before in Cambridge, 707 children were sound previously, that is, patients who had been previously inspected, but the teeth were such that no treatment was required; the remainder, 4493 children had been inspected and had received treatment in previous years.

The condition of the teeth of 5990 children, divided into their respective age groups, follows :—

Age.	Number of Children Examined.	Number of Temporary Teeth			Number of Permanent Teeth		
		Sound.	Decayed Saveable	Decayed Unsaveable	Sound.	Decayed Saveable	Decayed Unsaveable
5 Years	738	11213	2838	158	473	79	—
6 ,,	650	8143	2179	297	2424	508	—
7 ,,	615	6041	1300	348	4301	860	4
8 ,,	682	5329	676	341	6635	907	7
9 ,,	791	4760	379	307	9816	1244	8
10 ,,	787	3297	147	238	12159	1031	38
11 ,,	497	1278	26	76	9295	690	32
12 ,,	488	674	5	65	10409	804	49
13 ,,	374	209	3	15	8838	649	32
14 ,,	368	95	—	7	8942	667	30
Total ...	5990	41039	7553	1852	73292	7439	200

For every 100 elementary school children in Cambridge, therefore, there are 685 sound temporary teeth, 126 saveable temporary teeth, 30 unsaveable temporary teeth, 1223 sound permanent teeth, 124 saveable permanent teeth, and 3 unsaveable permanent teeth.

The number of unsaveable temporary teeth per 100 children has been reduced from 40 in the year 1929 to 30 in the year 1930, while the number of unsaveable permanent teeth per 100 children remain the same.

Condition of the Teeth after Treatment.

3078 elementary school children were treated during the year 1930, and the effect of treatment can best be appreciated by arranging a comparative table, giving the results of dental inspection, together with the rearrangement which naturally follows as a result of treatment.

	No. of Children Inspected.	Temporary Teeth.			Permanent Teeth.		
		Sound.	Decayed Saveable.	Decayed Unsaveable.	Sound.	Decayed Saveable.	Decayed Unsaveable
Condition of teeth at Inspection ...	5990	41039	7553	1852	73292	7439	200
Condition of teeth after Treatment...	5990	47622	970	353	79252	1479	70

This comparative table indicates that in the mouths of 5990 children there are, after treatment, only 2.2 per cent. of teeth (Temporary and Permanent) which show any dental disease at all, and the percentage of decayed unsaveable teeth (Temporary and Permanent) amounts to .3 per cent., almost negligible.

ROUTINE DENTAL WORK.

The nature and quantity of the work necessary to satisfactorily treat 3078 elementary school children is as follows :—

FILLINGS...	A.	Amalgam or Synthetic	5777	8368
	B.	Amalgam (Lined) or Synthetic (Lined)	2021	
	C.	Amalgam or Synthetic With Root Canal Treatment ...	570	
	D.	Teeth treated with Silver Nitrate (Howe's Method).		6261
EXTRACTIONS	E.*	Temporary Teeth	1499	1629
		Permanent Teeth	130	
		Total operations ...		16258

*With the exception of very loose temporary teeth, anaesthetics, either local or general, are always used for the removal of teeth.

CASUALS.

In addition to the work recorded above, work was performed on certain children who visited the dental institute without an appointment. The object of the visit was either to seek relief from pain, or to obtain the routine treatment found necessary at inspection, though unable to accept the treatment when offered, owing to illness, inconvenience and the like.

1023 children visited the institute casually, and treatment was either complete or incomplete, being dependant upon the nature of the trouble which prompted the visit. Work done under this heading was as follows :

FILLINGS...	A.	In Permanent Teeth	271
	B.	In Temporary Teeth	79
EXTRACTIONS	C.	Of Permanent Teeth	71
	D.	Of Temporary Teeth	639
	E.	Teeth treated with Nitrate of Silver (Howe's Method)	941
		Total operations ...	2001

The number of children who received routine dental inspection, but were not treated, was 640, being 17 per cent. of the number requiring treatment, and 10.6 per cent. of the total number inspected. These percentages, I am pleased to report, constitute the lowest figure ever recorded in Cambridge, and, though this fact affords grounds for satisfaction, there must be no relaxation of effort on the part of those interested and anxious to obtain an improved acceptance. The number of parents in Cambridge who simply will not be convinced of the advantages derived from regular dental attention for their children are, fortunately, few in number, but they do exist; and, not only do they prevent their children from reaping certain benefits which dental inspection and treatment can provide, but, by the spread of their dissatisfaction and apparent contempt for so-called " Municipal interference," occasionally succeed in promoting discontent and doubt in others who would otherwise have fulfilled their obvious duty.

The health claims of regular dental inspection and treatment are already well known, but inadequately appreciated, because the effects of bad teeth on health is only occasionally manifest in school children, and, in a manner unwisely considered slight (for example, tonsils, adenoids, glands, etc.). It is uncommon for the body mechanism of a child to be so hopelessly upset that a complete breakdown of health results, and the reason for this is not difficult to understand. The vitality of youth is such that oft repeated invasions of poisons in small doses into the system, such as that derived from bacterial infection of a tooth or teeth, is apparently satisfactorily combated by the defence mechanism of the body (highly efficient in young children), but long continued septic absorption from bad teeth places an unnecessary strain on the defence mechanisms of the body, which, sooner or later, may fail to respond with the inevitable loss of health which this failure involves.

Extraction, too, may not, and frequently does not, alleviate the condition. By extraction the offending tooth is removed, the local condition subsides, further bacterial infection is temporarily suspended; but, already, sufficient toxins have been absorbed to render a renewal of health difficult, and sometimes impossible.

Parents, therefore, who send their children to the clinic for extractions, having previously refused treatment calculated to preserve the teeth, should bear these facts in mind. They seek dental attention only when they must, and extraction, a necessary but comparatively useless operation, results. Extraction to be effective from the general health standpoint would require to be undertaken before the disease had penetrated to any great extent; indeed, the extraction of sound teeth would be necessary, a theory not only perfectly futile, but, in practice, criminal. How much less, therefore, the responsibility of parents, who, having been notified that the teeth of their children require attention, fail to accept the invitation, and, by so doing, deliberately encourage an impaired standard of health with loss of teeth ?

Dental inspection and treatment is a privilege which can be enjoyed by all elementary school children, and the day is fast approaching when one and all must, and will seek dental inspection at frequent intervals in order to avoid the spread of dental disease.

And now two tables which I have always considered to be of very special interest, indicating in the one case the percentage of caries-free children, temporary and permanent teeth combined, and in the other case the number and percentage of sound permanent teeth at inspection, the number and percentage of teeth made sound by artificial means (treatment), and the number and percentage of children whose permanent teeth remained saveable or unsaveable as a result of failure to accept the offer of the treatment.

Age.	Number of Children Examined.	No Decay including Both Dentitions.		Remarks.
		Number of Children.	Percentage.	
5 Years ...	738	184	24.9	A. Children with no decay present number 2272. B. Percentages improve with age, indicating correctly, a superior condition of Permanent Teeth to Temporary Teeth. C. Children whose ages are from 11 to 14 years have stronger teeth, more resistant than those younger.
6 ,, ...	650	115	17.6	
7 ,, ...	615	156	25.3	
8 ,, ...	682	239	35.0	
9 ,, ...	791	302	38.1	
10 ,, ...	787	370	47.0	
11 ,, ...	497	254	51.0	
12 ,, ...	488	251	51.4	
13 ,, ...	374	208	55.6	
14 ,, ...	368	193	52.4	
Total ...	5990	2272	37.9	

Age.	Number with Permanent Teeth.	Number of Children whose Permanent Teeth were						Unsaveable but Untreated
		Sound.		Made Artificially Sound.		Saveable but Untreated.		
			Approx.%		Approx.%		Approx.%	
5 Years...	163	130	80	33	20	—	—	—
6 ,, ...	508	287	56	189	37	32	6	—
7 ,, ...	605	279	46	268	44	58	9	—
8 ,, ...	681	318	46	298	45	65	9	4
9 ,, ...	791	345	43	362	47	84	10	1
10 ,, ...	787	417	53	276	36	94	11	11
11 ,, ...	497	270	54	176	36	51	10	7
12 ,, ...	488	269	54	179	38	40	8	9
13 ,, ...	375	221	59	112	30	42	11	7
14 ,, ...	368	199	54	144	40	25	6	8
Total ...	5263	2735	52	2037	39	491	9	47

From this table it can be understood that 2735 children had no decay present in the permanent dentition. Again, 2037 children had any dental defects in the permanent dentition corrected.

The percentage of children with no decay present, including both dentitions, is still further improved this year, rising from 35.1 per cent. in 1929 to 37.9 per cent. in 1930. This increase is the natural result of active conservative treatment of the temporary teeth and, while annual routine dental inspection and treatment will maintain this percentage at the present level, any marked deviation in an upward direction is not anticipated. To understand this, one need only study the percentage of children with sound permanent teeth before treatment. In 1930 this figure was 52 per cent., in 1929 55 per cent., and in 1920 51.2 per cent., indicating, clearly, that the maximum attainable by an annual routine dental inspection and treatment has been reached, and progress, to be effective, demands further effort, involving change in the mode of living (diet), and oral cleanliness, or bi-annual inspection, the former a preventative measure, the latter definite control.

Table to denote progress, resulting from periodic dental inspection and treatment of elementary school children :—

Cambridge. Year.	No. of Children Examined.	No. of Children with Permanent Teeth.	Percentage of Sound Permanent Teeth, before Treatment.	Percentage of Sound Temporary Teeth, after Treatment.	No. of Decayed Unsaveable Permanent Teeth.	Percentage with no decay, including both Dentitions.	Percentage of Decayed Temporary Teeth in the 5 Year Old Group.	Total No. of Operations performed.
1908	2828	2397	15 %	48.1%	1698	2.4%	—	5746
1909	2843	2170	27.1%	50.1%	895	2.6%	43.7%	6416
1912	4254	3779	29.0%	56.6%	848	7.9%	31.6%	8133
1920	4566	4134	51.2%	67.0%	702	15.7%	22.1%	6708
1928	6080	5319	56.0%	94.9%	289	34.2%	18.9%	13547
*1929	5301	4690	55.3%	96.2%	163	35.1%	20.9%	13764
1930	5990	5263	52.0%	97.3%	200	37.9%	21.0%	18259

* Two months without the services of an assistant.

The most noteworthy thought obtained by a study of the above figures is that associated with the treatment of the temporary dentition. One finds, for example, that the amount of active caries present in the temporary dentition after treatment is almost negligible, and the percentage of children with no decay in both dentitions still increases. Accordingly, active conservative treatment of the temporary teeth is well worth while, and every attempt is made, and should be made, to retain the temporary teeth in a healthy condition until they are no longer required, that is to say, " until the permanent teeth are ready to displace the temporary teeth." Early loss of temporary teeth is deplorable, in so much that future irregularity of the permanent teeth is almost certain; and, not only is irregularity a defect which can, in a large number of cases be avoided, but irregularity is one of the main factors associated with the destruction of teeth. The treatment of temporary teeth has, of recent years, been rendered comparatively easy with the introduction of Howe's ammonical silver nitrate and formalin solutions, and large numbers of temporary teeth hitherto considered unsaveable can be preserved usefully and effectively by this method. To retain the temporary teeth also is to encourage development of the jaws so that the permanent teeth, on eruption, will be well placed, better calcified, and therefore more resistant to factors associated with the production of dental caries.

It will be noticed that in the year 1930 more operations were performed than in any previous year that this scheme has been in existence. It must not be inferred from this that the teeth of the school children are in a worse condition than previously; on the contrary, the teeth of the Cambridge school children are unquestionably better now than ever before, but the extra operations are accounted for, in the main, by the large increase in the number of saveable temporary teeth, and, by having more children with sound dentitions, concentration is possible to such an extent that cavities in permanent teeth are filled in very many cases before the dentine has been seriously involved. Thus a larger number of operations signify an even more determined effort to control dental disease than previously.

In school dentistry control of disease would appear to be the deciding factor, and therefore the possibilities of a bi-annual inspection and treatment might be explored, as prevention of dental disease is, to a great extent, problematical, for the very good reason that a change to an effective diet, that is, a diet rich in Vitamin D, calculated to improve the process of calcification, is apparently fraught with difficulties thus far without proper solution. In this connection I would wish to recognize, gratefully, the work of the Hygiene Sub-Committee in instituting a tubercle-free milk supply to certain school children. A procedure such as this is highly commendable, and could be considered quite reasonably in the light of present-day knowledge as a means to prevent dental disease.

Cleanliness, also, is obviously beyond proper control, as many school children known to possess tooth brushes do not use them, are not compelled to use them, with the result that caries is established early and often.

"Clean teeth do not decay,"

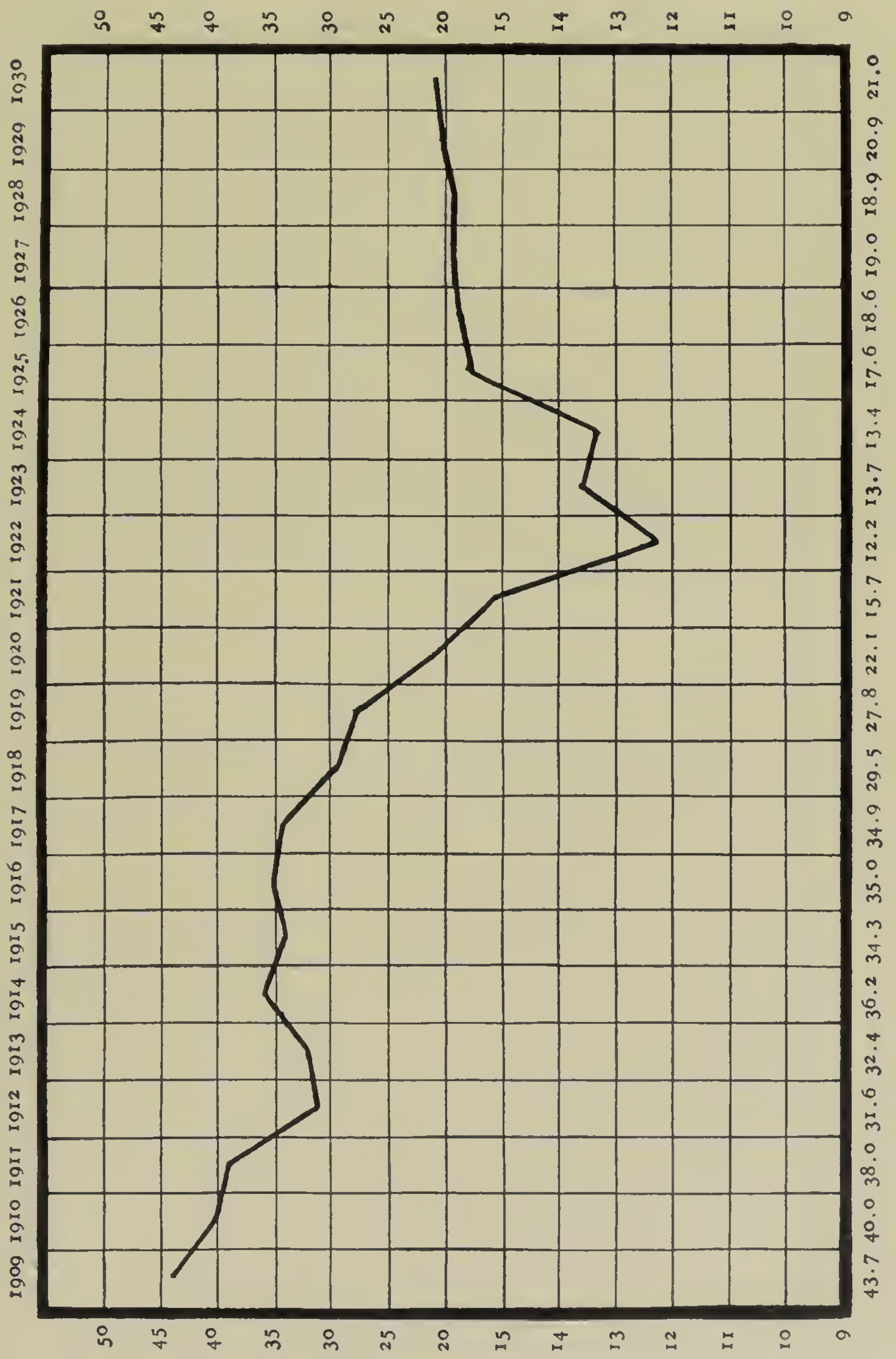
but as the majority of elementary school children will not regularly use the tooth brush, or its equivalent, control of dental disease can otherwise only be definite by a bi-annual inspection and treatment.

The unsaveable permanent teeth, which numbered 200 in the mouths of 5990 children at inspection, were distributed thus :—

114 children had 1 unsaveable permanent tooth each.
21 ,, ,, 2 ,, ,, teeth ,,
8 ,, ,, 3 ,, ,, ,, ,,
5 ,, ,, 4 ,, ,, ,, ,,
148 children had 200 unsaveable permanent teeth.

(It should be noted that all saveable or sound permanent teeth, removed for orthodontic purposes, are charted as unsaveable, and are included in the above table.)

Diagram.—Showing the percentage of decay in the temporary teeth of the five year old group of children from 1909 to 1930 (inclusive).



The percentage of decay in the temporary teeth of the five year old group of children is again on the increase, being 21 per cent. in the year 1930, as against 20.9 per cent. in the year 1929. Recently there has been established in Cambridge an ante-natal clinic, and one result of this institution should be an improved dental condition of the children concerned. Whatever our views in days gone by there can be no doubt that the diet of the expectant mother and her mode of living plays a prominent part in determining the degree of calcification. An impoverished diet, one, that is to say, void of the necessary vitamins, is almost certain to produce hypoplastic teeth in the child. Calcification of the enamel of temporary teeth takes place long before birth, consequently the problem of feeding is urgent, and should be tackled with vigour at the ante-natal centres and elsewhere without delay. Milk and cod liver oil, perhaps orange juice, together with adequate fresh air and rest, will suffice, and these factors, in themselves, can do much to secure normal enamel formation—the first essential in the prevention of dental disease.

Simple remedies such as these tabulated above can produce a caries-free population, and with the introduction of ante-natal clinics and nursery schools I can look forward most hopefully to the day when decay in the teeth of the five year old group of children will be reduced to a minimum.

THE DENTAL TREATMENT OF THE PRE-SCHOOL CHILD.

Children under five years of age receive treatment at the central treatment centre on Tuesdays after 3.30 p.m., on Thursdays from 2 p.m., and on Saturday mornings; and the number attending at regular intervals is on the increase.

The attendance of children under five years of age is obtained:

(1) By recommendation from the various Maternity and Child Welfare Centres.

(2) By recommendation of Parents and others.

(3) By a request on the various appointment forms in use for the treatment of school children.

The treatment, needless to say, is remedial in character, and the popularity of this scheme is due in particular, to the methods employed. Briefly these methods can be described as follows:—"Any very small cavity in any situation is cleaned out, the cavity is not extended, and silver amalgam inserted. Cavities which are too large to permit of filling are stoned down to avoid overhanging edges and treated with Howe's ammonical silver nitrate and formalin solutions.

The latter procedure necessitates frequent visits, generally at least three visits; and I would wish to express my appreciation and gratitude to parents who travel long distances to the treatment centre at frequent intervals for this purpose, and who are obviously pleased and interested in the progressive effect of this form of treatment.

TEACHING OF DENTAL HYGIENE.

The year 1930 ends the fourth year of teaching in the schools, by Dentists, of dental hygiene as part of the ordinary school curriculum. Once again I am able to report good progress, and the interest and intelligence displayed by the children is such that I can continue to consider this diversion as one of the finest achievements in the history of the Cambridge dental institute. I have not the slightest doubt that, in time, as a result of this course of training in dental hygiene, the condition of the teeth of elementary school children will vastly improve; indeed, there is already ample evidence available, even with parental control, in support of this belief, as the children receiving the course of instruction keep the teeth clean, they try to diet correctly or, at least, avoid soft, sticky and starchy foods for the last meal of the day; in many cases they seek dental advice twice or more annually, realizing that to have small cavities in the enamel filled is not only a simple and painless operation, but the results are more permanent. In short, children taught dental hygiene have been prepared to apply their teaching in a practical manner with distinctly satisfactory results.

The course which is directed by the Dental Officers includes :—

(1) The care of the mouth in infancy : (*a*) Development.
 (*b*) Enamel Formation.
 (*c*) Habits, etc.

(2) Temporary and permanent teeth, description, names, eruption, etc.

(3) Tooth, derivation, structure, etc.

(4) First permanent molars. (Special reference.)

(5) Causes of dental disease.

(6) Progress of dental disease.

(7) Prevention of dental disease } Diet, cleanliness, metabolism, etc.
(8) Control of dental disease }

EXAMINATION IN ITEMS OF DENTAL INTEREST (1930)

Time allowed 45 minutes.

QUESTIONS.

Only two questions to be attempted.

(1) Draw a sketch of a First Permanent Molar, showing the internal structures, naming them. Which is the hardest and which the softest structure ?

(2) Your Dentist states that dental disease can be controlled. By what means do you think ?

(3) What are one or two causes of dental disease ? What do you suggest would prevent injury to teeth from the causes you mention ?

(4) Give the dates of eruption of the following teeth :—

1 Second Temporary Molar.
2 First Permanent Molar.
3 Permanent Canine.
4 Second Pre-Molar.
5 Lateral Incisors.

What tooth replaces the first Temporary Molar ?

RESULTS OF THE EXAMINATION (1930).

(1)	Number sitting	410
(2)	First-class Certificates ... 65 per cent. or more.	120
(3)	Second-class Certificates ... 50 per cent. to 64 per cent.	87

The certificates, not easily obtained by any means, are signed by Dr. J. H. C. Dalton, Chairman of the Hygiene Sub-Committee; T. F. Foreman, Secretary for Education; and W. Baird Grandison, Public Dental Officer. I understand that certain employers of labour have valued these First-class Certificates, and I trust this practice will be continued and even increased.

It only now remains to deal satisfactorily with the children in the so-called " adolescent age." Year by year passes and still no scheme has been put into operation whereby children, having left school, can continue to receive, at least, one annual dental inspection and treatment. There is very little credit to those responsible that this period, the most important in the life of the individual, should continue neglected. A statement of this character appears in this report for the very good reason that it is neither just or economical to expect local authorities all over the country to fulfil certain obligations, of which dental inspection and treatment is one, only to permit of a definite recurrence of dental caries which very soon nullifies the advantages derived from the school dental service.

APPENDIX.

OTHER OPERATIONS, 1930.

Orthodontic Cases	41
Jaw Injury	1
Crowns (Resulting from injury to anterior teeth)	39

CHILDREN.

Cleaning of Teeth (performed by Dental Attendants under supervision) ...	1111